

**Notice of Allowability**

Application No.

09/905,511

Applicant(s)

KIM ET AL.

Examiner

Lawrence B. Williams

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 14 October 2005.
2. ☒ The allowed claim(s) is/are 1-12, 14-22, 24-32, 34-39, 42-47, 49-51, renumbered as 1-12, 13-21, 22-36, 37-42, 43-45, respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>4</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                  |
|   | 9. <input type="checkbox"/> Other _____   |

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James R. Hannah on 05 January 2005.

The application has been amended as follows:

a.) Cancel claim 48. Applicant has requested that claim 48 be cancelled with traverse and prejudice. Applicant reserves the right to introduce the cancelled claim in a continuing application.

### **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance: The instant application discloses a method and apparatus for reducing jitter in data transmission between a transmitter and a receiver. A search of prior art records has failed to disclose a method comprising the steps of:

“measuring relative jitter between the recovered clock and the recovered data at the receiver; and measuring phase pointer activity where the phase pointer represents relative jitter between the recovered clock and the recovered data at the receiver, wherein said phase pointer activity is measured as an absolute sum of the phase pointer directional changes; and adaptively adjusting the PLL loop bandwidth of the receiver to reduce the relative jitter” as disclosed in claim 1.

“measuring phase pointer activity where a phase pointer represents relative jitter between the recovered clock and the recovered data at the receiver; wherein said phase pointer is determined from integration of a magnitude of an AC component of a control voltage representing received data phase changes; and adaptively adjusting a characteristic of the receiver so as to reduce the phase pointer activity” as disclosed in claim 9.

“tracking a phase pointer representing a relative jitter between the recovered data and clock, wherein the data is encoded using Transition Minimized Differential Signaling (TMDS); measuring phase pointer activity; and adjusting the loop bandwidth of the receiver PLL based on the phase pointer activity measured” as disclosed in claim 29.

“measuring phase pointer activity; incrementally changing the receiver PLL loop bandwidth, measuring new phase pointer activity, and calculating a difference between the new phase pointer activity and the phase pointer activity” as disclosed in claim 39.

“measuring a phase pointer activity in DC and AC components; and adjusting the phase pointer activity by compensating for the DC component of the phase pointer activity” as disclosed in claim 44.

“measuring an error rate at the receiver; adaptively adjusting the PLL loop bandwidth of the receiver to reduce the error rate; comparing a received encoded character with a set predefined out-of-band (OOB) characters, and detecting an error if the encoded character is the same as any OOB character” as disclosed in claim 49.

“measuring phase pointer activity; and measuring a DC component of the phase pointer activity and repeating the step of measuring the phase pointer activity if the magnitude of the DC component is above a predetermined limit” as disclosed in claim 51.

Nor does the prior art teach a system for reducing jitter in data transmission between a transmitter and a receiver comprising:

“means for measuring relative jitter between the recovered clock and the recovered data at the receiver; means for measuring phase pointer activity where the phase pointer represents relative jitter between the recovered clock and the recovered data at the receiver, wherein said phase pointer activity is measured as a frequency of a phase pointer changes; and means for adaptively adjusting the PLL loop bandwidth of the receiver to reduce the relative jitter” as disclosed in claim 5.

“means for measuring phase pointer activity where a phase pointer represents relative jitter between the recovered clock and the recovered data at the receiver, wherein said phase pointer is determined from integration of a magnitude of an AC component of a control voltage representing received data phase changes; and means for adaptively adjusting a characteristic of the receiver so as to reduce the phase pointer activity” as disclosed in claim 19.

“a phase-tracking unit for tracking a phase pointer representing a relative jitter between the recovered data and clock; control logic for measuring the activity of the phase pointer to produce a control signal, and a PLL for recovering the clock, wherein a loop bandwidth of the PLL can be adjusted based on the control signal from the control logic” as disclosed in claim 34.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

## CONCLUSION

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

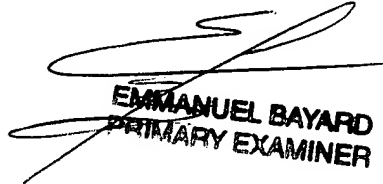
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw

January 5, 2006



EMMANUEL BAYARD  
PRIMARY EXAMINER